

INTRODUCTION

On October 20, 1993, the Regional Forester provided direction reflecting emphasis on ecosystem management and the health of riparian zones. The Wallowa-Whitman National Forest was asked to select high priority watersheds for analysis based upon several specific criteria. The Upper Grande Ronde Watershed was selected for analysis in 1994. The Federal Agency Guide for Pilot Watershed Analysis was used as a base model to complete the watershed analysis process. As part of the Governor's Demonstration Project within the Upper Grande Ronde Watershed, the Meadow Creek watershed was selected for a holistic analysis and accelerated restoration effort across all ownership boundaries. The need for an updated watershed analysis was identified in this area to analyze needs, opportunities, priorities, effects, and to measure success. Therefore, the Meadow Creek Watershed Analysis documents the completed update for the Upper Grande Ronde Watershed Analysis, 1994.

A. CONTEXT

The background for watershed analysis is rooted in several earlier efforts or initiatives that have occurred within the past four years in the Pacific Northwest. In order to understand the evolution of the concept of watershed analysis, it is important to understand the relationship between watershed analysis and earlier informational and decision making efforts.

1. PACFISH

In 1991, the USDA Forest Service and the USDI Bureau of Land Management (BLM) began analyzing a range of ecosystem-based interim management strategies designed to arrest degradation and begin restoration of aquatic habitat and riparian areas on lands administered by the Forest Service and BLM in Oregon, Idaho, Washington, and California. This comprehensive and coordinated strategy for restoring and protecting habitat of the affected species is commonly referred to as PACFISH.

The results of the analysis were documented in a March 1994 Environmental Assessment (EA) that specifically applies to watersheds outside the range of the northern spotted owl that provide habitat for Pacific salmon, steelhead, and sea-run cutthroat trout.

2. SAT AND FEMAT REPORTS

SAT Report --- On July 30, 1992, a Scientific Analysis Team (SAT) was commissioned by the Chief of the Forest Service to examine several issues related to the environmental impact statement (EIS) for management of the northern spotted owl in the National Forests. This was in response to a court directive to go beyond the northern spotted owl and evaluate additional species thought to be dependent on late-successional/old-growth forests. The SAT report was completed in March 1993.

The SAT Report contains a Fish Habitat Conservation Strategy that rests on four critical components with one of them being the requirement to implement watershed analyses as an explicit level of planning designed to evaluate geomorphic and ecologic processes operating in specific watersheds.

FEMAT Report --- In April 1993, President Clinton commissioned an interagency scientific team to develop a set of alternatives for management of forested ecosystems within the range of the northern spotted owl. This effort culminated in a report by the Forest Ecosystem Management Assessment Team (FEMAT) entitled, Forest Ecosystem Management: An Ecological, Economic, and Social Assessment, published in July 1993.

Due to accelerating concerns about declining fish resources, protection and improvement of aquatic and riparian ecosystems are key components of the FEMAT report. It presents a broad strategy for

maintaining or restoring the distribution, diversity, and complexity of watershed and landscape-scale processes and characteristics under which aquatic species have evolved. Watershed analysis is one of four components of the Aquatic Conservation Strategy, and serves as a basis for planning further protection or management, including restoration measures.

Eventually, the SAT and FEMAT Reports had influence on Forests east of the Cascade Mountain crest. The Regional Forester made the decision to have a watershed analysis program throughout Region 6, including all non-owl Forests.

PACFISH, SAT, and FEMAT signal a new era in managing forest and rangeland. This has elevated watershed management and habitat conservation to a high level of importance and has compelled us to view large landscapes over longer periods of time. This is a key to developing and maintaining sustainable forest and range ecosystems which function to provide high quality habitat for all species. Watershed analysis will also help society determine future sustainable use in watersheds.

3. EASTSIDE FOREST ECOSYSTEM HEALTH ASSESSMENT

The Eastside Forest Ecosystem Health Assessment, developed April 1993, responded to the request by House Speaker Tom Foley and Oregon Senator Mark Hatfield for a scientific evaluation of the effects of Forest Service management practices on the sustainability of eastern Washington and Oregon forested ecosystems, and recommends a process and management practices that could restore stressed ecosystems to more sustainable conditions. The report documented several significant findings and the one specific to Aquatic Systems states, "Land management practices such as roading, stream channelization, grazing, and irrigation have simplified fish habitats and depreciated habitat quality by reducing the frequency and diversity of pools, changing stream bottom composition, decreasing the abundance of large woody debris, and reducing water quality".

The report made eleven general recommendations, with two being specific to inventory and analysis:

- Inventory and classify public lands and streams in eastern Oregon and Washington as the foundation for ecosystem management. Standardize land evaluation and classification procedures, data base structure, and GIS systems.
- Conduct planning, analysis, and management at all relevant biological, economic, and social scales.

4. ROADS ANALYSIS

In February 1999, Agriculture Secretary Dan Glickman, joined by Under Secretary for Natural Resources and Environment Jim Lyons and Forest Service Chief Mike Dombeck, announced an 18-month moratorium on new road construction in unroaded areas in most national forests, allowing for safe public access while protecting the environment.

During the 18-month suspension, the Forest Service was developing a long-term road policy for the National Forest Transportation System. The Policy was to minimize environmental damage, establish new policies to guide decisions on identifying unessential roads, recommending roads to be eliminated or maintained to reduce environmental damage, and assessing roads that need to be reconstructed and maintained so that they are safe and can sustain constant public use.

The shift in public use of national forests, changes in user expectations and the backlog of unfunded road maintenance led the Forest Service to conclude that it needed a new approach for the management, use and maintenance of the national forest road system.

The Roads Policy, which requires a Roads Analysis for any project that affects roads, was published in January 2001. Any NEPA decisions for projects that affect roads scheduled for signature after June 2001 will require a Roads Analysis to be completed before signing and implementation.

5. INTERIOR COLUMBIA BASIN ECOSYSTEM MANAGEMENT PROJECT (ICBEMP)

The U.S. Department of Agriculture, Forest Service, and the U.S. Department of the Interior, Bureau of Land Management, propose to develop and implement a coordinated, scientifically sound, broad scale, ecosystem-based management strategy for lands they administer across parts of Idaho, Oregon, Montana, and Washington. The ICBEMP FEIS represents 3 management alternatives. In December 2000 they released a Proposed Decision identifying Alternative S2 as the preferred alternative. However, this alternative has not been signed which would have formally revised the Wallowa-Whitman Forest Plan and made the direction within the FEIS mandatory for management on this Forest. However, information compiled and published within the Scientific Assessments by the Science Team were considered and incorporated into this watershed analysis.

B. INTENT

Watershed analysis is an ecosystem analysis at the watershed scale. The result is a scientifically based understanding of the ecological processes and interactions occurring within a watershed.

Watershed analysis is an intermediate step between land management planning and project planning. This scale of analysis will provide analytical information about ecosystem functions, structure, and flows in the watershed, including past and current conditions and trends. This analytical step will be used to support decision making at the provincial, basin, and project scales.

Watershed analysis is a dynamic process and information that is not available at the time of the initial analysis will be updated as additional information becomes available. Through the analysis, data gaps will be identified and documented.

Watershed analysis, as presented here, is not a decision process. It does not produce a formal decision notice or record of decision as required by the National Environmental Policy Act (NEPA).

1. PURPOSE OF WATERSHED ANALYSIS

The purpose of watershed analysis is to both identify issues or problems and identify approaches for resolution within an ecosystem context.

The following are watershed analysis objectives:

- ☐ Provide information to guide planning, management, restoration, and monitoring activities.
- ☐ Analyze cumulative effects.
- ☐ Describe the ecological and physical role of riparian zones in the watershed. Provide the information needed to determine how riparian reserves will be designed and mapped during site-specific project planning.
- ☐ Provide a common framework for evaluating and managing upland and riparian landscapes.
- ☐ Provide a common framework for multi-agency, multi-user interactions.

2. FOREST PLAN CONNECTION

Given the desired future conditions, goals and objectives, management area boundaries, and standards and guidelines from Forest Plans, watershed analysis is a tool to help in identifying and prioritizing Forest Plan implementation actions.

Information gained during watershed analysis may show that a Forest Plan amendment is necessary. If the Forest Supervisor decides to proceed with a plan amendment, watershed analysis will be used to support the NEPA analysis for the amendment.

3. PROJECT LEVEL PLANNING

Watershed analysis is a tool to help in identifying and prioritizing project opportunities. The watershed analysis will provide a framework for project development and will provide information regarding past and existing conditions, issues, and management concerns useful during subsequent project NEPA analysis. It will also help in addressing the cumulative effects of multiple activities within a watershed. The watershed analysis will be incorporated by reference into the project NEPA document, (Environmental Impact Statement or Environmental Assessment), and will become part of the project record.

C. CONNECTION WITH OTHER SCALES

1. HIERARCHICAL SCALE

A goal of ecosystem management is to promote sustainability by protecting the processes and functions within and across all spatial and temporal scales. The implementation of ecosystem planning and management requires multiple scales and hierarchical analyses. Within the hierarchy, each level operates as a distinct entity and as a part of the larger whole. This structure stresses the interaction between scales (see Table I-1).

Table I-1- Hierarchical Scale

Table I-1 – Hierarchical Scale		
Scale	Description	Activity Area
Region	Broadest level of organization; size is normally issue driven	Region 6 and Eastside Ecosystem Management Project
Province	Watershed based delineations that relate the bio-physical landscape to socio-political values and structures	Blue Mountain Province
River Basin	Large, continuous land areas of hundreds to thousands of square miles and which have topographic or geologic integrity	Snake River Basin
Watershed	A subunit of the river basin; normally between 20 and 200 square miles	Meadow Creek Watershed Analysis
Site	A specific activity within a watershed	Project Level NEPA Analysis

The watershed analysis effort in the Upper Grande Ronde River (UGRR) drainage provided ecological information at the watershed scale, however, refinements in the process and new information indicated that an update for the Meadow Creek Watershed would facilitate future site specific project level planning within this area, as well as river basin, provincial, and regional efforts. Because ecosystem analysis and planning is a continuum at all scales, watershed analyses will provide information to river basin planning and receive information from site analyses. This hierarchical structure allows the definition of components of an ecosystem and the linkage between different scales of ecological organization.

The Interior Columbia Basin Ecosystem Management Project team has conducted a broad-scale assessment of the Columbia River Basin. The issues relating to the Columbia River Basin analysis are also relevant to the Meadow Creek Watershed analysis. The framework for ecosystem management is being developed so that information collected at the various scales may be aggregated to support ecosystem management decisions at different ecological scales.

D. METHODOLOGIES - ANALYSIS PROCESS

The draft Federal Watershed Analysis Guide for Pilot Analysis was used to guide the UGRR watershed analysis. This was an evolving document that allowed flexibility and as with the Meadow Creek effort, experience gained during the pilot program identified deficiencies and provided improved methods which were incorporated into this update. Modules, described in the Watershed Analysis guide and developed for the UGRR Analysis, were modified to fit the information available and to meet the specific needs of the Meadow Creek Watershed.

E. PUBLIC AND INTERAGENCY INVOLVEMENT

Watershed analysis does not generate a record of decision. Watershed analysis is an intermediate level of analysis which derives information from larger scale plans and provides information to smaller scale, site specific analyses. Both the large scale and smaller scale analyses are formal decision points under NEPA.

Watershed analysis should encompass the entire watershed, including all ownerships. Therefore, it is important that federal, state, county and tribal governments who administer land in the watershed work together and share information concerning the watershed.

The following is a partial listing of the agencies, local government and public interests that have been included in the watershed analysis effort; Bureau of Land Management, Soil Conservation Service, Oregon Department of Fish and Wildlife, Oregon Watershed Health team, Union County Court, Grande Ronde Model Watershed Board, Confederated Tribes of the Umatilla Indian Reservation and Union County Soil and Water Conservation District. A public presentation on watershed analysis was also given during a public meeting sponsored by the Forest Service.

F. ORGANIZATION FOR CONDUCTING WATERSHED ANALYSIS

The Core Team of resource specialists participating in this update was located at the La Grande Ranger District. Refer to the list of Interdisciplinary Specialists in the Appendix.

G. REPORT ORGANIZATION

The organization of the Meadow Creek watershed analysis report is influenced by the large area being analyzed and the need to look at the interactions between biological, social, and physical processes throughout the watershed.

Chapter I provides a brief description of the watershed. The issues and key questions specific to the Meadow Creek watershed are found in Chapter II. Throughout the report you will find common threads that relate the analysis to these issues and key questions.

Chapters III and IV outline past conditions, current conditions and condition trends, and desired conditions in the watershed. Chapter IV discusses the desired conditions and effects of land management actions as identified in the Forest plan. These chapters concentrate on the interdisciplinary aspects of the watershed's functions and processes.

Chapter V draws the common threads together and displays restoration and management opportunities in a form that may easily be used by land managers in developing restoration work, riparian reserves, and monitoring projects.

Chapter VI discusses landscape scale monitoring and will reveal types of data that will be useful for better understanding watershed processes, ecosystems, and impacts in the area.

Chapter VII lists some of the threshold analyses for the opportunities identified in Chapter V to assist in identifying scheduling, prioritizing, and future analysis of effects of implementation.

H. SUMMARY

Watershed analysis includes an evaluation of physical, biological and cultural qualities and processes. It provides a logical way to view ecosystem functions and will aid in making informed land use decisions.

Above all, watershed analysis is a vehicle for ecosystem management at the watershed level. It links riparian and aquatic habitats to a full suite of processes operating throughout the watershed, and it provides a common framework for evaluating and managing upland and riparian landscapes.